



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,840	09/07/2004	Michel Cornelis Josephus Marie Vissenberg	NL 020202	6664
24737	7590	04/06/2006		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER SHENG, TOM V.	
			ART UNIT	PAPER NUMBER
			2629	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/506,840	Applicant(s) VISSENBERG, MICHEL CORNELIS JOSEPHUS MA	
	Examiner Tom V. Sheng	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/7/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Cathodoluminescent Display Device.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 11, it is unclear what applicant meant by "a beam path length is substantially the same for all picture elements of the display screen." In fact, as shown in fig. 2, 4, 5 and 6, the beam path length varies significantly between the picture elements with respect to an electron gun.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2629

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Stanley (US 4,215,293).

As for claim 1, Stanley teaches a display device (cathodoluminescent flat display device; fig. 1-3), comprising:

a display screen (display section 14; fig. 1) for displaying image information (having a front wall 18 with an inner surface screen 28 composed of cathodoluminescent elements; column 2 lines 4-27), having a predetermined number of luminescent picture elements (the cathodoluminescent elements each corresponds to a plurality of apertures 35 of a channel 29; fig. 2; column 2 lines 59-64);

an electron gun (one of electron guns 40a-f; fig. 3) for generating an electron beam (emits an electron beam 76; fig. 3; column 3 lines 56-57) and

an electron beam guide (horizontal guide 43, transition horizontal guide 45, and vertical guide 26a-f; fig. 3) for receiving the electron beam at a beam entrance (at one of grids 56 as shown) and guiding said electron beam along a beam path to extraction means (an electrode stripe 27) for extracting said electron beam from said beam guide towards a predetermined picture element of the display screen (first travels horizontally through horizontal guide 43, then deflects at right angle by transition guide 45, then through one of vertical guide 26 of a channel 29, and finally deflected at a designated point 31 through one of the apertures 35 by a corresponding electrode stripe 27 toward the screen 28; column 3 line 56 through column 4 line 31),

characterized in that the electron beam guide comprises a two-dimensional

Art Unit: 2629

slalom guide (the guides 43, 45 and 26 together form a two-dimensional slalom guide), while said extraction means are arranged to extract said electron beam from said two-dimensional slalom guide (the one of electrode stripes 27, being biased to repel the beam, are arranged as such; column 4 lines 24-31).

To clarify, Stanley's invention uses six electron beams for each channel 29 to address each display element through six corresponding apertures 35.

As for claim 2, the guides 43, 45 and 26 are all in one plane and parallel to the display section 14 or screen 28.

As for claim 3, electrodes 44, 47 and 48 within guides 43 and 45 are perpendicular to the screen 28 and thus correspond to "a number of slalom electrodes extending in a direction substantially perpendicular to the display screen." See column 3 lines 21-40.

As for claim 4, the back wall 20, front wall 18 and screen 28 are all flat.

As for claim 5, one of the toggle electrodes 47 and 48 toggles to direct the electron beam and thus corresponds to "a slalom electrode can be switched between an electron beam repelling state and an electron beam attracting state."

As for claim 10, the electron guns 40a-f, corresponding beams, corresponding paths, and target electrode stripe 27 corresponds to respective electron guns, electron beams, substantially different individual beam paths, and extraction means.

Claim Rejections - 35 USC § 103

Art Unit: 2629

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley as applied to claim 1 above, and further in view of Knox et al. (US 5,990,609).

As for claim 12, Stanley teaches that each channel 29 (with six electron beams) corresponds to one of red, green and blue light emitting elements (column 2 lines 24-27). However, Stanley does not teach "post-selection means for passing the electron beam extracted from the electron beam guide to any one of the plurality of sub-pixels within the predetermined picture element."

Knox teaches control of an electron beam by two anodes 51 and 52 (fig. 2B). Specifically, by using different states of the anodes, the electron beam can be directed to a red, green, or blue phosphor for light emission (column 5 lines 1-21). One of ordinary skill in the art would recognize that with this anode structure and corresponding method, each channel of electron beams could now be used to address three color sub-pixels. This is advantageous as now only one channel is used versus three channels for the three colors providing cost saving in making of the display.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Stanley's display using Knox's teaching because of the reduction in complexity and subsequent cost saving.

As for claim 13, Knox's red, green and blue phosphors correspond to claimed red, green and blue sub-pixels.

Allowable Subject Matter

8. Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts of record teaches the limitation "the slalom electrodes are arranged in rows and columns defining an array of cells, each picture element of the display screen corresponding to a cell" of claim 6. Specifically, Stanley's electrodes 44, 47 and 48 are for beam guidance to the vertical channels for row by row scanning, and there is no correspondence at all between the electrodes and the picture elements of screen 28. Claims 7 and 8 are dependent on claim 6.

Also, none of the prior arts of record teaches the limitation "the electron gun is arranged to generate two separate electron beams having a mutual distance smaller than a slalom pitch, each of said two electron beams being guided in a different guiding mode associated with the beam path" of claim 9. Specifically, the six beam paths of Stanley are different and with mutual distance that appears the same as the slalom pitch.

Conclusion

Art Unit: 2629

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
March 31, 2006

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Amr Awad", with a stylized flourish at the end.